

Appl. No. 10/028,099
 Amdt. dated April 14, 2004
 Reply to Office Action of January 14, 2004

Amendments to the Specification

In the Specification, please replace the ABSTRACT with the following.

The present invention relates to a method for optimization of temporal performances of a network of electronic cells. In an example embodiment, there is a plurality of cells that are taken from a library. The library comprises several categories of cells. The cells of the same category all have the same functionality, and are arranged in increasing order of power. The method according to the example embodiment comprises, computing accurate propagation times of signals that pass through each cell of the network. Cells that have a computed propagation time greater than a predetermined reference value, are then identified.

In the Specification, please replace text, page 6 lines 33-35 through page 7 lines 1-5 as shown.

Figure 4 shows an example of possible replacement according to a category of cells. ~~Thus, in this example, 4 threshold values val₁, val₂, val₃, and val₄, and two categories of cells are illustrated. There is a cell of category C₀, which can be replaced by one of four possible replacement cells, C₁, C₂, C₃, and C₄ of the same category according to their corresponding threshold values. Likewise, there is a cell of category C₁, which can be replaced by one of the four possible replacement cells C₃, C₅, C₆, and C₇ of the same category. For example, if a cell of category C₁ which is liable to be replaced has a propagation time dt₁ which is greater than val₂ and smaller than val₃, the cell of rank k=3 is C₆. In this example, four threshold values, val₁, val₂, val₃, and val₄, and one category of cells are illustrated. There is a cell category C_i with 8 different strengths, C₀ to C₇. The cell C₀ can be replaced by one of the seven possible replacement cells C₁, C₂, C₃, C₄, C₅, C₆, and C₇ of the same category according to their corresponding threshold values. Likewise, there is a cell C₁ which can be replaced by one of the six possible replacement cells, C₁, C₃, C₄, C₅, C₆, and C₇ of~~

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the same category. For example, if a cell of category C_1 , which is liable to be replace, has a propagation time dt_1 , which is greater than val_2 and smaller than val_3 , the cell of rank $k=i+j$ equals $1+2=3$ is chosen. C_3 then replaces C_1 .

Referring back to Figure 4, for example $val_1=1$, $val_2=2$, $val_3=3$. The initial cell is drive 0; C_0 has a propagation delay $dt_i=2.5$. $val_2 < dt_i < val_3$, therefore $j=2$ and $k=0+2=2$. In conclusion, cell C_0 can be upsized to C_2 .

In another case, the initial cell is drive 1; C_1 has a propagation delay $dt_i=1.5$. $val_1 < dt_i < val_2$, therefore $j=1$ and $k=1+1=2$. In conclusion, cell C_1 can be upsized to C_2 .